

Transportation Planning in Large Metropolitan Areas

Gordon A. Shunk, *chairman*

Participants: J. Bobo, A. Boudreaux, M. Carakatsane, R. Dunphy, D. Glass, J. McDonnell, J. McLelland, E. Biedron, P. Salopek, G. Scheuernstuhl, B. Wilson, and T. Zakaria.

Initial discussions focused on differing uses of the 1980 data by the several metropolitan areas represented in the workshop. Many of the areas used the data for relatively conventional purposes such as travel model development and revision. Of more interest to the participants were novel or unusual uses. Albuquerque used the data for analysis of central business district (CBD) revitalization plans. Boston used the data for expanding GBF/DIME-file coverage and for studies of transit station areas. Chicago and Denver based subarea and major employer studies on the data. St. Louis prepared a marketing program for ridesharing with the data, and Washington used the information to prepare a data base for their Equal Employment Opportunity (EEO) program. Dallas is using the data for locating CBD employment as part of a major survey effort.

The discussion of uses eventually turned to the broader importance of these data to the MPO. Creative summaries and analyses can be important for building among the private sector an image of the MPO as a resource of useful information and related capability. In addition to the more familiar experiences of the Southern California Association of Governments (SCAG), Rice Center in Houston publishes development area briefs that other MPOs could prepare for their cities by using these data. One MPO representative mentioned their use of a private-sector broker to overcome possible legal problems associated with marketing information prepared or purchased with public funds.

A natural follow-on to the discussion of uses was a catalog of deficiencies, problems, or additional needs encountered using the data. Other than concerns about delays in availability, virtually the only problems cited with using the 1980 data were related to accurate coding of workplaces to traffic zones or census tracts. This in itself is a strong testimony to both the quality and the usability of the data. The usefulness was further underscored by comments on additional needs or changes to improve the data from the 1990 census, all indicating more potential ways to use the census data. The requests included more variety of tabulations and cross-tabulations, particularly for small areas, and similar control totals on all reports. The definition of the handicapped should not be based solely on restricted use of public transit. There were some complaints about usability of software provided and the usefulness and clarity of documentation. Factors for nonattendance at work should be provided to permit correcting the sample to a true employment estimate. The income levels should be reported according to relative stratifications, and the vehicle-availability question should permit any vehicle to be considered.

FINAL RECOMMENDATIONS

All aspects of the 1980 census should be retained as they were except for

changes recommended in the following. This recommendation is to endorse the 1980 census and to assure that no questions or procedures are deleted by virtue of their not being specifically requested. Detailed recommendations for changes are listed by subject category and according to the following priorities: imperative needs, important needs, and additional consideration.

Questionnaire Content

Imperative Needs

The wording of the place-of-work question should be revised to improve response, perhaps by permitting optional responses such as facility name. This of course is an additional attempt to improve the accuracy of the location response. It was agreed that coding to the nearest intersection should be the last resort.

Important Needs

The travel-time question should be augmented to obtain the starting time of the trip. This information is needed to identify peaking characteristics. Obtaining starting time and travel time permits calculating arrival time, and this approach provides the travel-time information that some users find valuable. The question that defines the handicapped should be revised to enlarge the qualification beyond limitation of transit use; the definition should be sufficiently specific to permit identifying the respondent's level and nature of impairment as related to various activities, particularly regarding automobile as well as transit use. The mode use question should be modified to obtain data on all modes used, including access mode to transit. This information is needed to permit relating demographics and location to decisions on how best to access transit, but it is also valuable for principal mode-choice analysis. A change in the question on vehicle availability is needed to permit indication of four or more vehicles and to consider pickup trucks equivalent to automobiles. These additions are important in particular portions of the country or certain urban areas.

Procedures and Sample Size

Imperative Needs

The processing and availability of final data should be speeded in whatever manner this can be accomplished. This is probably the single most critical improvement needed, and all participants are willing to assist in whatever manner is acceptable to the Census Bureau. There are several recommendations in this report that address this improvement in different ways, and probably as many more will arise in further discussions and consideration. Now is the time for the Census Bureau to consider these proposals and respond. Thereafter, the Census Bureau and U.S. Department of Transportation should work with the MPOs and resolve this problem early so both the Census Bureau and the MPOs can be prepared when various actions are necessary.

The full sample should be coded and distributed. A larger sample should be collected if this is justified by research on error reduction. There was a general belief that a larger sample would be desirable, but some research on errors and cost-effectiveness is necessary before we can present an unqualified recommendation for a larger sample. Most of the MPOs would still like to obtain the uncoded 1980 data, if possible, perhaps even by coding it themselves.

There appears to have been considerable difficulty in obtaining the desired results from the workplace location question. Research, perhaps of a psychological nature, is needed on strategies to obtain the best response from this question. Proposals to use the news media appear to offer some possibilities. Other creative ideas are sure to be forthcoming from professionals in related fields with sufficient time for consideration.

Multiple-stage surveys or processing or both, including follow-up surveys and supplementary surveys, should be considered for special needs. The purpose of these would be primarily for expediting availability and improving accuracy of results. The recommendation would be to obtain the most important or universally useful data in the initial survey followed by supplementary data collection to augment the original or to resolve questions arising from analysis of the original. The supplementary surveys would also be used to collect special-purpose information useful to or requested by only a few agencies or users. The Census Bureau should act as coordinator or clearinghouse for ideas and problems and should pretest useful ideas and procedures that aid MPOs in improving their assimilation and use of the data and reports.

Important Needs

The MPOs should provide publicity to clarify proper responses to the place-of-work question. This would of course have to be related to results of the previously recommended research. The census should obtain information on whether each respondent regularly has more than one job. This would be valuable information for relating jobs to work trips because interjob trips are not traditionally considered home-based work trips.

Additional Consideration

Consistent coding definitions should be established for industry type, for example, Standard Industrial Classification (SIC) codes. The current inconsistencies render the data difficult or impossible to use, whereas care in definition by either the Census Bureau or the MPOs at the planning stage might overcome this problem. If there are good reasons why the Census Bureau cannot change their definitions, those reasons might be strong justification for a universal change in these and similar definitions. A more important question is why some definitions vary within the census itself. Collecting nonwork data, especially for transit trips, should be considered. These data are more important for some urban areas than for others and might be candidates for supplementary surveys.

Geographic Coding

Imperative Needs

Census data should be coded to block geography, and the area covered by block coding should be expanded to the 1990 urbanized area. Coding to blocks permits aggregating to virtually any reasonable areal geography--traffic zone, census tract, neighborhood, and so on. This approach permits various users in different areas or in the same area to request aggregated data in the format that best suits their purpose. This also avoids the long arguments about which geography is best or should be the standard. It is important for MPOs to begin early to anticipate where their 1990 urbanized area will be and to define blocks or block groups in that area for use by the Census Bureau in coding. The extent

of coverage must be tempered by the understanding that the bureau will charge for block coding outside the area actually urbanized in 1990. However, it is better to be prepared with blocks identified and have to cut back the area coded than to be unprepared for necessary expansion when time is critical.

Work location should be coded to block for workers who reside outside the metropolitan area (guidance as to the feasibility of doing this is needed from the Census Bureau). These data are needed particularly in northeastern states where there is considerably more extensive suburbanization outside the Standard Metropolitan Statistical Area (SMSA) than in other parts of the country. These data are needed to capture internal and external commuting patterns. If it can be demonstrated that these patterns are not significant in individual cases, the workshop participants indicated a willingness to rescind their request for the data.

Geocoding should be further decentralized to census district offices, and MPO involvement in the geocoding process should be increased to improve accuracy and speed the availability of final data. This is an attempt to provide local assistance in whatever manner is feasible so as to facilitate earlier receipt of results. Centralized coding appears to increase the "black box" syndrome and to decrease interaction, responsiveness, and accuracy. Coding in district offices would permit MPO representatives to be available for coding assistance. There is strong sentiment that workplace coding can best be done by the MPO if census institutional problems can be overcome. The Census Bureau should also provide draft coding maps to MPOs early for checking.

The Census Bureau and the U.S. Department of Transportation need to identify and schedule tasks for MPO action to be completed earlier so as to avoid delays:

- Provide block-to-zone equivalency tables,
- Update GBF/DIME files (consider expansion areas), and
- Provide coding listing for major employers.

FHWA and UMTA should follow up to be sure MPOs meet schedules.

Important Needs

The Census Bureau should provide a tabulation of workers by tract or zone at an early stage before full data files are complete, to permit checking by MPOs and correction of errors before file preparation is complete.

Data Products

Imperative Needs

The UTPP should be a standard census product, provided along with other basic information. Supplementary data sets for particular purposes or metropolitan areas should be provided at later times and on special request. Perhaps such requests should be confined to a standard menu rather than being individually tailored. Summary tabulations of workers at workplace locations and by descriptions of workplace should be provided on tape as standard products in accordance with guidance from the TRB Committee on Transportation Information Systems and Data Requirements, which should review the list of census data tabulations to determine whether all those produced are used. The Census Bureau should improve data processing software, user guides, training, and descriptions of products.

Important Needs

The Census Bureau should provide software to facilitate the interface between tape and diskette media (for large MPOs). Data should also be available on diskettes for small MPOs. Census data processing software for users should be improved so that it is easier to use, and a census software user group to share problems and solutions should be established.

Additional Consideration

The Census Bureau should consider reporting income by percentile to accommodate changes in cost of living and forecasting models that deal with stratifications rather than absolute values. The same stratifications should be used in all reports; there is concern for lack of comparability or cross utility among standard reports. This should be addressed by the TRB Committee on Transportation Information Systems and Data Requirements. To permit improved estimates of employment, factors are needed to expand employment data to account for those not reporting to work. Control totals for employment should be the same in all census products. For whatever reasons, the census is reporting employment totals that differ from UTPP totals. This may require factoring the UTPP if the full sample is not coded or provided. The TRB committee should consider whether average automobile occupancy tables should be discarded.

Comparability

The U.S. Department of Transportation should develop data sets and analyses for trendlines and intercity comparisons. There is a great need in the field for comparative statistics to verify reasonableness and to help us understand what to expect and accommodate or reflect in our longer-range forecasting process.

Institutional and Administrative Concerns

There is a need for early direction and schedules for MPO activity prepared and monitored by the Census Bureau, FHWA, and UMTA. This recommendation is related to previous recommendations but is emphasized to assure that MPOs have early warning as to how to program their resources. Early post office approval and assistance with address coding listings should be obtained. This is related to other expediting recommendations, another base that needs to be touched to assure that key actors are not overlooked and do not cause delay. Funding sources are needed, because some agencies cannot afford to purchase the package with existing resources.